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Attorney Docket No. 125.135USR1

Title: CONSTRAINED-ENVELOPE DIGITAL-COMMUNICATIONS TRANSMISSION
SYSTEM AND METHOD THEREFOR

In the Specification:

Please insert the following beginning below the Title at Column 1:

This application is a reissue of US Patent 6,104,761

Please amend the paragraph beginning at column 1 line 55 as follows :

The use of Nyquist-type filtration in a transmission circuit produces a filtered signal stream containing a pulse waveform with a spectrally constrained waveform. The degree to which a Nyquist-type pulse waveform is constrained in bandwidth is a function of the excess bandwidth factor, α . The smaller the value of α , the more the pulse waveform is constrained in spectral regrowth. It is therefore desirable to have the value of α as small as possible. However, as the value of α is decreased, the ratio of the spectrally constrained waveform magnitude to the spectrally unconstrained waveform magnitude is increased. The spectrally unconstrained waveform is the waveform that would result if no action were taken to reduce spectral regrowth. Typical designs use α values of 0.15 to 0.5. For an exemplary α value of 0.2, the magnitude of the spectrally constrained waveform is approximately 1.8 times that of the unconstrained waveform. This means that, for a normalized spectrally unconstrained waveform magnitude power of 1.0, the transmitter output amplifier must actually be able to provide an output power of 3.24 (1.8²) to faithfully transmit the spectrally constrained waveform. This poses several problems.

Please amend the paragraph beginning at column 5 line 55 as follows :

FIGS. 3 and 4 illustrate a series of twelve exemplary sequential phase points 52, representative of a random data stream processed by transmitter circuit 22 (FIG.2). These twelve exemplary phase points 52 reside at temporally consecutive locations labeled t_0 , t_1 , t_2 , t_3 , t_4 , t_5 , t_6 , t_7 , t_8 , t_9 , t_{10} , and t_{11} . These labels represent sequential integral times at

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unit baud intervals 64, i.e., integral-baud times, and indicate the leading-edge times of phase-point pulses 66. For purposes of simplification within this discussion, any occurrence at time t_N shall be referred to as "occurrence t_N ". For example, an exemplary phase point 52 occurring at time t_2 shall be referred to as phase point t_2 , and the associated phase-point pulse 66 whose leading edge occurs at time t_2 shall be referred to as phase-point-signal pulse t_2 . In other words, at time t_2 , phase point t_2 is clocked and phase-point-signal pulse t_2 begins. One unit baud interval 64 later, at time t_3 , phase point t_3 is clocked and phasc-point pulse t_3 begins. This process continues indefinitely, with twelve exemplary phase points t_0 through t_{11} depicted in FIG. 3 and twelve corresponding phase-point-signal pulses t_0 through t_{11} depicted in phasc-point signal stream 50 of FIG. 4.

Please amend the paragraph beginning at column 8 line 11 as follows:

FIG. 6 illustrates Nyquist-type datum bursts 100 for phase-point pulses t_2 and t_3 , with datum burst t_2 depicted as a solid line and datum burst t_3 depicted as a dashed line. As an example, it may be seen from FIG. 6 that at time t_2 the value of datum burst t_2 is peak datum-burst value 102. At every other time separated from time t_2 by an integral number of unit baud intervals 64, the value of datum burst t_2 is zero. An analogous condition occurs for datum burst t_3 .